

# Notes Regarding The Water Quality Index (WQI)

WQI scores above 80 are consistent with meeting water quality goals for conventional pollutants.

However, the different color coding for scores less than 80 is a visual aid; breakpoints other than 80 are not ecologically significant.

Water Quality Index scores may differ from 303d assessments for the following reasons:

- Data sources: The WQI is based primarily on Ecology data; the 303d assessment is based on data from multiple sources.
- Constituents (parameters): The overall WQI combines 8 measures of conventional water quality. The 303d Assessment includes 4 conventional measures but there are also criteria for numerous toxic pollutants.
- Time periods: The WQI is an annual aggregation of data by water year from 1994 through 2013. The current 303d Assessment aggregates data collected prior to December, 2006 into a single assessment.
- Evaluation techniques: The WQI uses various procedures to aggregate results for samples and parameters into an overall annual score. The 303d Assessment uses a different set of procedures to determine whether available data should result in listings for individual parameters.

All current long-term Ecology monitoring stations with at least 5 years data are included. Most stations shown are near the mouths of major streams. These stations integrate upstream water quality and capture large basin-scale trends. However, status and trends at these locations may not reflect status or trends in any particular sub-basin. Scores for individual parameters are presented as Oxygen (Oxy), pH, temperature (TEMP), total suspended sediment (TSS), turbidity(Turb), nitrogen(TPN), and phosphorus(TP). Natural glacial systems may affect overall index scores in regards to TSS and Turbidity. These factors are taken into account by computing a harmonic mean ( $x = 2 / [1/TSS + 1/Turb]$ ) prior to calculating the overall index score. The harmonic mean weights the lower score more heavily and the interpretation of the overall WQI scores for natural glacial river systems should be used with caution.

Annual scores were determined by water year (WY; Oct-Sep) beginning with WY 1994.

Comments in the narratives referring to "listings" indicate that Ecology considers that at least some portion of the waterbody is not meeting designated beneficial uses and management action is required. "Listed" is synonymous with "on the 303d List" and "Category 5." Comments about "management plan" (i.e., "Category 4A") indicate that a plan has been approved, though not necessarily implemented.

